

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Kyoung-hwan Kwon, *et al.*  
Filing Date: Herewith  
Title: FREQUENCY MULTIPLIER AND METHOD OF MULTIPLYING  
FREQUENCY OF EXTERNAL CLOCK SIGNAL, DATA OUTPUT  
BUFFER, AND SEMICONDUCTOR DEVICE INCLUDING THE  
FREQUENCY MULTIPLIER AND THE DATA OUTPUT BUFFER

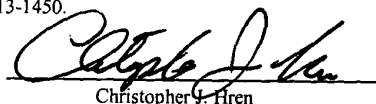
22264 U.S. PTO  
10/671105  
09/25/03

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.10

"Express Mail" Mailing Label Number EV322656468US I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated below and is addressed to Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

9-25-2003

Date

  
Christopher J. Hren

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

TRANSMITTAL LETTER

Sir:

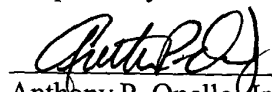
Enclosed herewith for filing in the above-identified patent application please find the following listed items:

1. New Application Transmittal;
2. New Patent Application;
3. Executed Declaration, Petition and Power of Attorney;
4. Six (6) Sheets of Formal Drawings (Figures 1-8);
5. Certified Copy of Priority Document - Korean Application No. 02-59831;
6. Check in the amount of \$1,128.00 to cover application filing fee;
7. Information Disclosure Statement;
8. PTO-1449 form and a copy of cited reference AA;
9. Assignment Recordation Form Cover Sheet - - PTO-1595;
10. Executed Assignment;
11. Check in the amount of \$40.00 to cover Assignment Recordation fee; and
12. Return Postcard.

In connection with the foregoing matter, please charge any additional fees which may be due, or credit any overpayment, to Deposit Account Number 50-1798. A duplicate copy of this letter is provided for this purpose.

Respectfully submitted,

Date: Sept 25, 2003  
MILLS & ONELLO LLP  
Eleven Beacon Street, Suite 605  
Boston, MA 02108  
Telephone: (617) 994-4900  
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Anthony P. Onello, Jr.  
Registration Number 38,572  
Attorney for Applicant

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

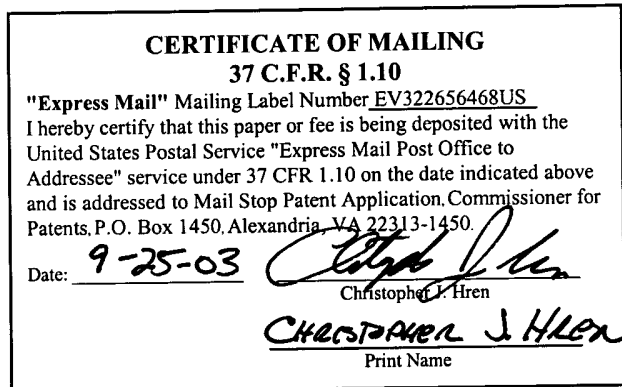
Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): Kyoung-hwan Kwon  
Hyun-soon Jang  
Kyu-hyoun Kim

For (title): FREQUENCY MULTIPLIER  
AND METHOD OF MULTIPLYING  
FREQUENCY OF EXTERNAL  
CLOCK SIGNAL, DATA OUTPUT  
BUFFER, AND SEMICONDUCTOR  
DEVICE INCLUDING THE  
FREQUENCY MULTIPLIER AND  
THE DATA OUTPUT BUFFER



1. **Type of Application** This new application is for  
a(n)

- ☒ Original (nonprovisional)  
☐ Design  
☐ Plant  
☐ Divisional.  
☐ Continuation.  
☐ Continuation-in-part (C-I-P).

2. **Benefit of Prior Application(s)**

- ☒ The new application being transmitted claims the benefit of prior Korean application  
no. 02-59831. See Item 7.

3. **Papers Enclosed**

15 Pages of specification  
8 Pages of claims  
1 Page of Abstract  
6 Sheets of drawings  
☒ formal  
☐ informal  
       Page of Cover Sheet

- ☐ The **encl** sed drawing(s) are photograph(s), and there is also attached a "PETITION TO ACCEPT  
PHOTOGRAPH(S) AS DRAWING(S)." 37 C.F.R. 1.84(b).

**4. Additional papers enclosed**

- ☐ Preliminary Amendment
- ☒ Information Disclosure Statement (37 C.F.R. 1.98)
- ☒ Form PTO-1449 (PTO/SB/08A and 08B)
- ☒ Copies of cited references
- ☐ Declaration of Biological Deposit
- ☐ Submission of "Sequence Listing," computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.
- ☐ Authorization of Attorney(s) to Accept and Follow Instructions from Representative
- ☐ Special Comments
- ☒ Other: Return Postcard.

**5. Declaration or oath**

- ☒ Enclosed
  - ☐ Unexecuted
  - ☒ Executed by
    - ☒ inventors
    - ☐ legal representative of inventor(s).  
37 CFR 1.42 or 1.43.
    - ☐ joint inventor or person showing a proprietary interest on behalf of inventor who refused to sign or cannot be reached.
    - ☐ This is the petition required by 37 CFR 1.47 and the statement required by 37 CFR 1.47 is also attached. See item 12 below for fee.
- ☐ Not Enclosed
- ☐ Application is made by a person authorized under 37 C.F.R. 1.41 (c) on behalf of all the above named inventor(s).
  - ☐ Showing that the filing is authorized.

**6. Assignment**

- ☒ An assignment of the invention to Samsung Electronics Co., Ltd.
  - ☒ is attached. A separate ☐ "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or ☒ FORM PTO 1595 is also attached.
  - ☐ will follow.

7. **Certified Copy**

Certified copy(ies) of application(s)

<u>Korea</u>	<u>0259831</u>	<u>October 1, 2002</u>
Country	Appln. no.	Filed
 <u> </u>	 <u> </u>	 <u> </u>
Country	Appln. no.	Filed
 <u> </u>	 <u> </u>	 <u> </u>
Country	Appln. no.	Filed

from which priority is claimed

- ☒ is (are) attached.  
☐ will follow.

8. **Fee Calculation (37 C.F.R. 1.16)**

CLAIMS AS FILED				
	Number filed		Number Extra	Rate
				Basic Fee 37 C.F.R. 1.16(a) <b>\$750.00</b>
Total Claims (37 CFR 1.16(c))	27	- 20 =	7	\$ 18.00
Independent Claims (37 CFR 1.16(b))	6	- 3 =	3	\$ 84.00
Multiple dependent claim(s), if any (37 CFR 1.16(d))			+	\$280.00

- ☐ A Preliminary Amendment canceling claims is enclosed. The filing fee is calculated based on the number of claims remaining after entry of the Preliminary Amendment.
- ☐ Amendment deleting multiple-dependencies is enclosed.
- ☐ Fee for extra claims is not being paid at this time.

Filing Fee Calculation **\$1,128.00**

**9. Small Entity Statement(s)**

- ☐ Verified Statement(s) that this is a filing by a small entity under 37 CFR 1.9 and 1.27 is (are) attached.
- ☐ Status as a small entity was claimed in prior application \_\_\_\_\_, filed on \_\_\_\_\_  
from which benefit is being claimed for this application under:
- 35 U.S.C. ☐ 119(e),  
☐ 120,  
☐ 121,  
☐ 365(c),

and which status as a small entity is still proper and desired.

- ☐ A copy of the verified statement in the prior application is included.

**Filing Fee Calculation (50% of A, B or C above)**

\$ \_\_\_\_\_

**10. Fee Payment Being Made at This Time**

- ☐ Not Enclosed
- ☐ No filing fee is to be paid at this time.  
(This and the surcharge required by 37 C.F.R. 1.16(e) can be paid subsequently.)

☒ Enclosed

☒ Basic filing fee \$ 1,128.00

☒ Recording assignment  
(\$40.00; 37 C.F.R. 1.21(h))  
(See attached "COVER SHEET FOR ASSIGNMENT  
ACCOMPANYING NEW APPLICATION".) \$ 40.00

**Total fees enclosed** **\$ 1,168.00**

**11. Method of Payment of Fees**

☒ Checks in the amounts of \$ 1,128.00 and \$ 40.00

☐ Charge Account No. 50-1798 in the amount of \$ \_\_\_\_\_  
A duplicate of this transmittal is attached.

**12. Authorization to Charge Additional Fees**

☒ The Commissioner is hereby authorized to charge the following additional fees during the entire pendency of this application to Account No. 50-1798.

☒ 37 C.F.R. 1.16(a), (f) or (g) (filing fees)

☒ 37 C.F.R. 1.16(b), (c) and (d) (presentation of extra claims)

☐ 37 C.F.R. 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)

☐ 37 C.F.R. 1.17 (application processing fees)

☐ 37 C.F.R. 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. 1.311(b))

**13. Instructions as to Overpayment**

☒ Credit Account No. 50-1798

☐ Refund

Respectfully submitted,

Date: September 25, 2003  
MILLS & ONELLO LLP  
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Boston, MA 02108  
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Registration Number 38,572  
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